

Los Angeles Trade Tech. Jr. College
Instructor: R.H. Oeffinger

EX-

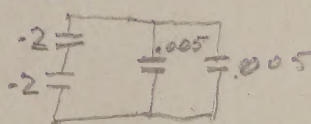
ELECTRONICS TECHNICIAN

Name LUCAS-AGUSTIN

Examination

Date OCT-22-56

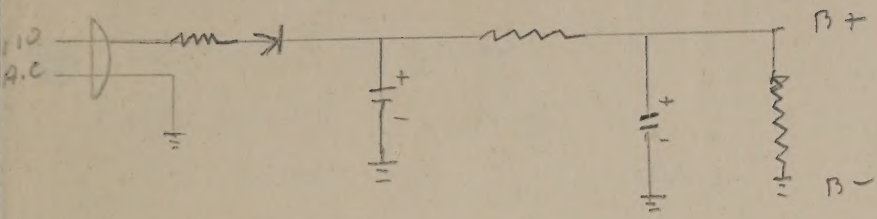
Capacitance, TC, and Power Supplies

- 2 1. The energy is stored in the DIELECTRIC PLATES of a capacitor.
2. Capacitors in series DECREASE while capacitors in parallel (increase or decrease) INCREASE the capacitance of a circuit. (increase or decrease)
3. A full-wave rectifier or power supply has a 120 cycle ripple frequency when 60 cycle is the source.
4. List the factors which affect the capacitance of a capacitor.
AREA OF PLATES
DISTANCE BETWEEN PLATES
TYPE OF DIELECTRIC
- 2 5. How is the dielectric formed in a capacitor? (ELECTROLYTIC)
BY IMPREGNATING A CLOTH OR SIMILAR MATERIAL WITH A CHEMICAL COMPOSITION.
6. What % of charge remains on a capacitor after 2 TC of discharge? 14%
7. Two .005 mfd. and two .2 mfd capacitors are available. With these capacitors a .11 mfd capacitor must be constructed. Draw schematic of the circuit and label each capacitor.
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8. Two capacitors of 8 mfd 450 WVDC are connected in series, what is the resultant WVDC and capacitance? 900 WVDC
4 MFD
9. In the above problem the capacitors are connected in ~~series~~ parallel, what is the resultant capacitance and WVDC? 450 WVDC
16 MFD
- 2 10. What is the peak negative inverse voltage of a half-wave power supply with filter capacitors, but no load at 110 volts RMS input. 220 VOLTS
11. How can the rectifier tube in a half-wave power supply be protected by the sudden charge of the input capacitor? BY A DROPPING RESISTOR IN SERIES WITH THE PLATE
Write True or False
12. F A full-wave power supply requires twice as much filtering as a half-wave.
13. T A buffer capacitor in a vibrator supply prevents arcing at the vibrator points.

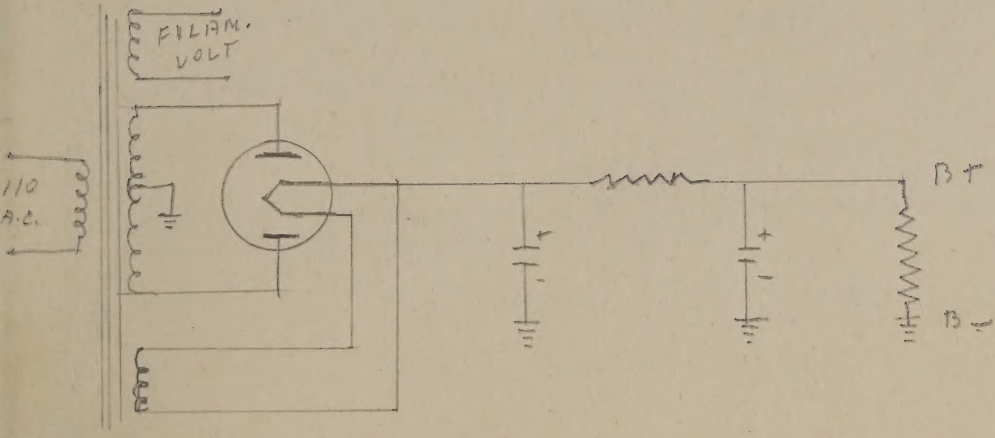
① $\frac{1}{2}$ WAVE SELENIUM

(+47)

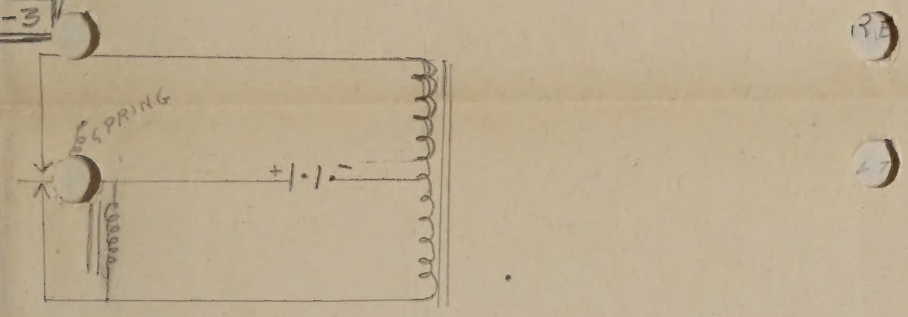
LUCAS, AGUSTIN



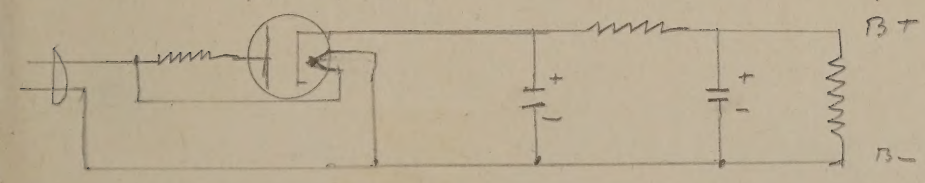
② FULL WAVE (TUBE)



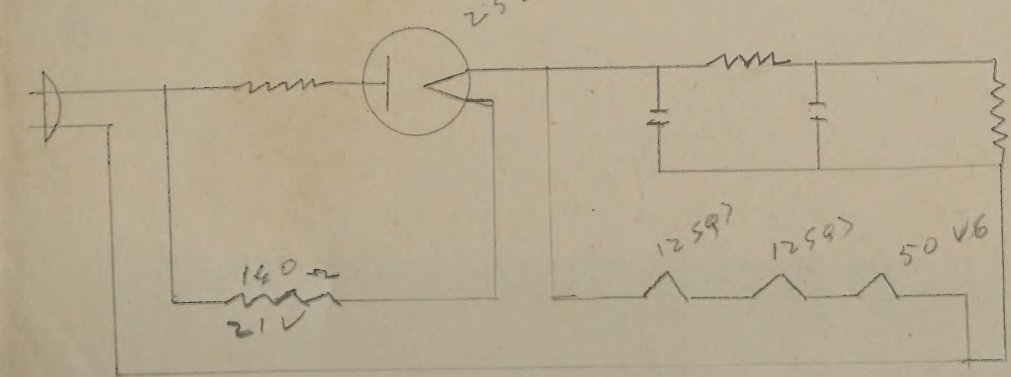
③ VIBRATOR SUPPLY



④ AC-D.C SUPPLY
117 VOLTS TUBE



⑤ $\frac{1}{2}$ AC-DC SUPPLY W/ FILAMENTS



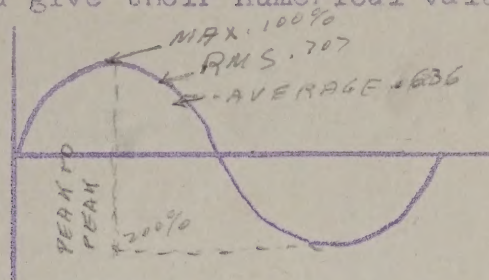
On the waveform show the appx. values and give their numerical value:

14. RMS or effective - .707

15. Average - .636 x MAX

16. Peak to Peak TWICE MAX.

17. Maximum = RMS x 1.414

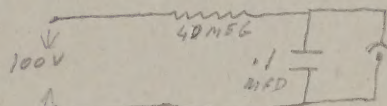


Problem: A neon lamp must flash once every 2 seconds. The lamp fires at 75 volts and extinguishes at 60 volts. 100 volts and a .1 mfd. capacitor are available.

18. What is the time constant? 4 SECONDS

19. What size resistor must be used? 40 MEGS.

20. Draw schematic.



OSCILLOSCOPE--BASIC OPERATION

For the controls given for an oscilloscope give their use and basic operation in the scope circuit:

example: Intensity--Controls brightness--varies voltage on CRT control grid

21. Horiz.--coarse frequency. CHANGES SWEEP FREQ. (BIG CHANGE)

22. Horiz.--fine frequency FINE CHANGE OF SWEEP FR. (SMALL CHANGE)

23. Sync. SYNCHRONIZES INPUT FREQ. (VERT.) WITH SWEEP FREQ.

24. Horiz. gain AMPLIFIES INPUT SIGNAL IN THE HORIZONTAL DIRECT.
CONTROLS INPUT VOLT. TO AMPLIFIER.

25. Vertical gain AMPLIFIES INPUT SIGNAL IN THE VERT. DIRECT.
CONTROLS INPUT VOLTAGE TO AMPLIFIER

